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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,996	08/07/2003	Mehrdad Mahanpour	H0938	1535

7590 07/13/2004  
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EXAMINER

GONZALEZ, MADELINE

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/635,996

Applicant(s)

MAHANPOUR ET AL.

Examiner

Madeline Gonzalez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/7/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 6 is objected to because of the following informalities:
  - a) Claim 6: The claim recites the limitation “a failure” in line 3. This limitation is confusing since it is not clear what applicant intends to claim. A “failure” is not a structural part of the device. Furthermore, there is no structural relationship between the failure and the other elements claimed.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Woodmansee (U.S. 3,511,086).

Woodmansee discloses a device 10 and a method for detecting a heat generating failure in said device 10, as shown in Fig. 1, having:

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- an unpassivated surface;
- applying a coating 11 on said unpassivated surface, wherein said coating 11 is non-electrically conducting and capable of localizing heat generated by a failure in a particular area of said coating 11;
- biasing said device 10;
- wherein said failure is detected by detecting a location of said heat generated by said failure in said coating 11;
- wherein said coating 11 comprises a high flash point and a low vapor pressure, and
- wherein said coating comprises a layer of liquid.

The preamble of the claim has not been given any patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self – contained description of the structure not depending for completeness upon the introductory clause. See *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-5, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodmansee (U.S. 3,511,086) in view of Debenham (U.S. 6,138,256).

Woodmansee discloses all the subject matter claimed above in paragraph 3 with the exception of a semiconductor device, the specific material of the coating and the specific thickness of the coating.

With respect to the semiconductor device: Debenham teaches a method for determining failures in semiconductor devices. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a semiconductor device as taught by Debenham as the device in the method disclosed by Woodmansee in order to determine failures in a semiconductor device.

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With respect to the specific material of the coating: Woodmansee as modified by Debenham disclosed a coating made of a cholesteric material. The particular type of material used to make the coating claimed by applicant, i.e., silicon dioxide, is only considered to be the use of a “preferred” or “optimum” material out of a plurality of well known materials that a person having ordinary skill in the art at the time the invention was made would have find obvious to provide using routine experimentation based, among other things, on the intended use of Applicant’s apparatus, i.e., suitability for the intended use of Applicant’s apparatus. See In re Leshin, 125 USPQ 416 (CCPA 1960) where the court stated that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to make the coating disclosed by Woodmansee of silicon dioxide since silicon dioxide is a well known material used in the semiconductor technology.

With respect to the specific thickness of the coating: Woodmansee as modified by Debenham disclosed a coating having a thickness. The specific thickness claimed by applicant i.e., 2 microns, is only considered to be the “ optimum ” value of the thickness of the coating, as stated above, that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on the desired accuracy and since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made

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to provide a thickness of 2 microns in order to make the coating thin enough to detect heat spots indicating a failure.

### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Allinikov, Waterman et al. ('525) and Kuroda et al. ('797) disclose coating compositions used to detect defects. Borden et al. ('178), Rose et al. ('950) and Scheidt et al. ('164) disclose methods to detect defects on a substrate.

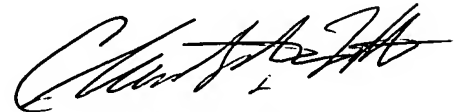
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeline Gonzalez whose telephone number is (571) 272-2243. The examiner can normally be reached on Monday-Friday (8:00-5:30), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MG



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